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ABSTRACT

In answer to the demands from all sides for change in higher education, a study group was formed at the University of Connecticut to determine the direction that institution will take to meet present demands and future needs. In doing so, the committee concerned itself with certain issues that constitute the background of any planning effort. These are: (1) the fundamental forces at play in determining the future of mankind and of the society within which the American universities operate; (2) the specific responsibilities of a big state university in the rapidly changing milieu that surrounds it; (3) the present image of the University of Connecticut in relation to these first two issues; and (4) possible mechanisms aimed at defining the options open to the University of Connecticut in the coming decade. The major recommendation of the study group is that the University, throughout its implementation of new developments, continuously evaluate new and existing programs to assure that the goals of the institution as a whole are being met. (HS)

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LONG - RANGE PLANNING COMMITTEE

PERSPECTIVES FOR
THE UNIVERSITY OF CONNECTICUT

A WHITE PAPER ON PLANNING

LONG-RANGE PLANNING COMMITTEE

MAY 1972

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PREFACE

During the past few years, many universities have looked at their future. An unprecedented number of long-range plans have been designed, some by administrators, others by commissions of benevolent outsiders, others still by various combinations of the university membership. Prompted partly by external pressures, partly by an undefined feeling of inadequacy, the academic community has occupied itself with self-analysis and evaluation.

The brutal crisis, brought about in 1968 by the students' challenge to the university, has been prompted as well as followed by a quieter but no less pervasive loss of confidence in the university as an institution. Often unsure of their educational goals, students question the substance and quality of the curriculum. Many doubt the values associated with university life. A skeptical and poorly informed public ponders the wisdom of the large investments made by society in its institutions of higher education. Minimally it demands that universities be held accountable. The academic community itself, faced with challenges for which it is evidently ill-prepared, takes refuge in the apparent security of tradition and reacts sometimes unwisely to the daily attacks of its critics.

It is difficult to gain from the mass of published documents the kind of perspective that would separate the essential from the ordinary. Plans come in many forms: detailed blueprints for academic reorganization[1,2], extensive philosophical statements[3], specific proposals for radical innovations[4,5]. To varying degrees all plans address themselves to the same questions and, after reading a few, it is difficult to see any further increment in one's knowledge and understanding of the problems at hand.

Characteristically, in most cases, there is little or no effort to relate specific recommendations to an overall set of assumptions, explicitly stated, as to what any given university should or could be. We are of the conviction that priorities assigned to such recommendations are of little value if they are based on ill-defined, naive, or even conflicting rationales. The aim of this paper is to provide a clear rationale against which to judge future plans of action proposed for this University. In the process, we hope to identify appropriate motivations for setting priorities and explain why specific priorities should be accepted.

TOWARD A LONG-RANGE PLANNING STRATEGY

THE PROBLEM WITH PLANS

With increasing pressure exerted from all sides to perform particular roles and to meet special needs, the university inevitably changes--adopts new programs, adds new courses, sheds old policies. Change does, however, tend to be just that, a piecemeal response to direct pressures, rather than balanced, considered development in the light of a well-defined concept of the particular university's mission.

The purpose of long range planning at a college or university is to provide the framework within which the institution can develop in an orderly fashion. Yet despite the undeniable theoretical validity of such planning, scepticism as to its practical possibility abounds, not only among critics of institutions of higher education but among the strongest advocates of their creative possibilities as well. In the face of lofty statements by planning groups about the need for thorough-going changes in the immediate future stand two simple realities. First, it is extremely difficult to accomplish thorough-going change at any well-established institution, no matter what powerful group calls for it. Secondly, the so-called innovations that most frequently do result from massive planning efforts are hardly new; they tend to be as piecemeal as anything they have replaced.

No planning group can afford to ignore these realities if it hopes to be taken seriously by the people it addresses or if it intends to produce more than just another report. Fortunately, several qualified observers of the educational scene have become aware of the pervasiveness of these realities. They have gone beyond mere condemnation of a stodgy faculty or an overbearing bureaucracy to analyze the complex of forces that undermine change at a college or university—and those that have worked to produce change. We will summarize three of the most thorough analyses, ones which describe the conditions that invite change, those responsible for initiating--or blocking--reform, and the elements that erode changes, once established. In these analyses lie the seeds of a productive strategy for planning.

CORRELATES TO ACADEMIC REFORM

From an intensive study of 110 institutions, JB Lon Hefferlin and his colleagues have identified a group of correlates to academic reform[6]. It appears from this study that a primary

source of change is organizational instability. For instance, an institution on the brink of financial bankruptcy is much more open to fundamental change than is one with a well-established base of support. The factor of instability, however, can take many forms, not all of them threatening to survival. Rapid expansion, the need to compete for students, a large faculty turnover, or turnover in the decision-making officials of an institution all seem to be sources of academic reform. In addition, certain environmental factors have influence on an institution's flexibility: urban institutions are more readily influenced by social trends than are rural ones; those undergraduate colleges that do not see themselves as preparing students for further formal study are more open to changes in requirements and programs; institutions in which decision-making about curriculum is broadly based are more likely to effect curricular changes than are those in which committee chairmen, department heads, or tenured faculty hold greatest sway.

Hefferlin emphasizes that major reform is observed only on the heels of failure, while in normal times reform comes through accretion and attrition at a pace determined in part by the presence or absence of the correlates for change that he has identified. Although some of these correlates, in particular geographic location and financial stability, are not often within the control of an institution, several of them are a direct result of institutional policies or decisions. A college or university interested in creating an atmosphere conducive to change should examine Hefferlin's correlates to see how it might move closer to the model of a "dynamic institution."

For example, the structure of decision-making can be either a help or a hindrance to reform. The less "patriarchal" the organization of the college or university, the more opportunity there is for people within the institution to generate new ideas and to implement them, according to Hefferlin. This fact has implications for a range of organizational policies, from the voice a student is given in planning his program to the question of limiting the tenure of department chairmen.

It is also apparent that the injection of new blood into a system makes that system more open to reform. This is particularly true, according to Hefferlin, when the new members come with an openness to change--or even as advocates for reform--and when they have access to the proper resources. In the case of this University, one thinks immediately of the fact that a new president will soon take office and the attitude of this new administrator toward reform can greatly influence the institution's development over the next few years.

Finally, there is the question of resources. While this factor is often not fully within the control of the institution, its importance in deciding the fate of ideas for change cannot be understated. Lacking the ability to expand rapidly or the urgent need to recruit more students, the institution should not envision reforms that depend on these factors for success. Often experimental programs will be in a position to generate their own resources through grants or special income sources. Additional funds might also be found by cutting away the dead wood in existing programs and reallocating resources. An institution must take the realities of limited resources into account, in any case, and as part of the planning process determine where the financial support for proposed new programs will come from.

THE FACULTY AND REFORM

Most observers of higher education believe the faculty to be the key to the improvement of the academic program. Because of their responsibility for the "software" of education and the teaching function, faculty members also carry the burden of blame for failure to initiate more radical or "relevant' educational reforms.

Jarold Kieffer has analyzed the causes of this failure, and his analysis requires a rethinking of the ways and means of initiating reform[7]. Kieffer cites first and foremost the lack of faculty incentive for initiating change: "The faculty promotion and tenure reward system simply does not provide 'points' for efforts spent in creative activity in teaching or in the matter of reform." The problem goes deeper than an individual institution's reward system, however, for faculty are both members of a discipline and part of the national hiring market. Kieffer points out that the current value system is "simply a fact of life...whether or not the university and college administrations and departmental leaderships think or say otherwise." Related to this point are the facts that there are no professional interdisciplinary efforts and that prestigious institutions and faculty are not generally the ones involved in experimental programs. These facts reinforce the tendency for faculty and their institutions to stick to conventional lines of development.

Additional factors deter faculty from seeking reform, according to Kieffer. Large blocks of faculty time, which are needed for sustained work toward reform, are rarely available, and hence it is difficult, even for faculty members interested in reform, to develop and follow through on their ideas. Faculty also are generally not trained to teach or develop curricula and are not equipped with knowledge concerning human learning behaviors and

styles. It is unrealistic, therefore, to expect that they will have the competence or the confidence to overhaul academic programs. Less reform-minded faculty fear, with well-documented justification, that experimental programs will cut into existing resources and restrict regular programs, or that project funds and personnel will disappear after an initial period, leaving the project to degenerate without ever having been usefully evaluated. Challenges from students, trustees, and society at large have tended to undermine faculty morale, often resulting in the faculty's dogged defense of its right to control the curriculum and academic standards, rather than in enthusiasm for reform.

None of these ideas is new, but stated together in this way, they force home the uselessness of expecting the faculty to be able--or willing--to initiate or implement academic reform without considerable support from other quarters. On the one hand, the traditional faculty strives to maintain or improve standards via conventional methods. On the other, reform-minded faculty would like to find new ways of educating but lack the time, assurances of support, and knowledge of how to accomplish the improvements they want. In addition, there is no unanimity, even among the reform-minded faculty, as to what changes are desirable or needed.

The problem of the reward system is, of course, pre-eminent. The possibility of reshaping the academic job market is nil, but individual faculty members who are interested in participating in reform despite the job market could accomplish a great deal given the support of release time, summer salaries, curriculum development assistance (media development, for instance) --and a sympathetic ear at the top.

STRUCTURAL ROADBLOCKS TO REFORM

A third way of looking at barriers to reform is to analyze, as Joseph Axelrod has done, the reasons why, once introduced, innovations tend to take on the characteristics of the programs they replaced or else to fade out of existence after a year or two. Axelrod emphasizes that innovations are pitted against the structures already established at a college or university, usually with no allowances made to protect them from the system[8]. These structural elements include the basic operations of a college or university, such as the scheduling of who and how many people gather where, how often, and for how long, or the system of evaluation of the degree seeker (who makes the judgments, how often, and on what basis). But they also include the understanding by the faculty and students of their respective roles, for instance, the amount of

assigned and independent work students expect to do in connection with their studies or the amount of non-class time faculty expect to spend with their students. The structures even include the expectations of those who will hire students or admit them to another level of education; these people want to be provided with a standardized way of evaluating their candidate, and they assume that a certain body or level of knowledge is covered by a given degree. Consideration of this type of factor can often lead to rejection of constructive proposals for experimentation: the new system would not provide comparable grades or it would demand more faculty time than is available. It is exactly this kind of objection that has come up repeatedly in meetings of this Committee at which proposals for change have been discussed.

Structural elements exist at any institution of higher education although the material of which they are made may vary radically. The large-scale lecture class would have as rough going at any institution geared to small seminars as the other way around. In order to change such a system, new programs must either be able to conform to existing structures without loss of integrity or else they must knowingly--and effectively--replace them. Part of any long-range plan, then, must be an evaluation of the structures that actually exist at the institution and how and in what directions they should be changed to accommodate proposed reforms. Ad hoc innovations without this rational base might well work at cross purposes. One means of arriving at such an evaluation of the structures might be through a survey of faculty, students, and others, such as alumni and employers. Documentation of existing structures, as well as of dissatisfactions with those structures, would elucidate directions for constructive reform.

THE IMPORTANCE OF BEING EVALUATED

One additional point pervades analyses of educational reform and deserves to be made explicit. This is that evaluation of experimental programs is crucial to any long-term success in innovation. Few long-range plans include any provision for measuring whether or not a change is having the desired effect--and many do not even define what that effect is really supposed to be. Even apparently successful programs have in the past been allowed to lapse simply because there was no means of measuring their advantage over conventional programs or of extracting the basic principles that merited replication throughout the system. Unless basic information about an experimental change is gathered, there is nothing on which to base further change.

CONCLUSION

If we take to heart the lessons learned from planning groups at other institutions, several necessary steps in a planning strategy become apparent. First, a well-defined statement of institutional purposes must be developed, and a plan for the directions in which the institution must change in order to fulfill those goals must be prepared. Then, specific proposals must be drawn up for programs that meet those requirements. Next, decisions as to which proposals should be implemented and how planning priorities should be ordered have to be made, including consideration of resources. Finally, the experimental programs themselves must be put into effect, evaluated, and extended, where appropriate.

While this line of development seems rather straightforward, the analyses of institutional change described earlier point up the hazards at each juncture; they also indicate ways in which such hazards may be skirted.

The primary ingredient in planning, the statement of institutional purpose, as simple as it may sound, is fraught with political pitfalls, for one college or university cannot be all things to all people. If the institution aspouses universal education, it will have to sacrifice selective student admissions and faculty hiring practices; if it opts for general education, those who want strong preparation in a special discipline or profession will have to go elsewhere. These decisions are not completely up to the free will of an institution; yet, whatever their source, they must be clearly stated if that institution is to develop in a coherent way and to fulfill its role.

Although everyone at a college or university is responsible in part for carrying out that institution's mandate, it is unlikely that they will agree on what the mandate is, unless it has been explicit for many years and constitutes their sole reason for being there. If consensus were called for, an endless and doubtlessly futile debate would result. It therefore becomes the final responsibility of those that control the college or university, in most cases the board of trustees, to define its scope of purpose. In exercising this responsibility the trustees would do well to seek out the opinions of the many constituencies of the institution, inside and outside its walls. It is then up to the top administrators to devise the means of accomplishing that purpose and to adhere to them firmly during the day-to-day decision-making of planning for expansion or cutting back, maintaining a balance between the separate elements of the institution, or setting policies for hiring

and promoting personnel. As so clearly emerges from the analyses of academic reform, the presence of this type of strong administrative leadership is vital to consistent and fruitful development.

Specific and detailed programs that will make directed change possible must, as stated by Kieffer, come from those who will carry them out. An important part of planning, therefore, is provision of support to faculty members interested in planning and implementing programs that meet the defined needs of the institution. Particular encouragement to engage in educational reform must be given to senior faculty, those with the experience and acquired familiarity with the institution and with the teaching process to be able to contribute valuable insights into workable reforms. Along with the time, funds, and technical assistance that is called for, additional support in the form of assurance of the seriousness of the undertaking is needed. Those faculty members who are willing to sacrifice the known outcomes of work in their own disciplines for the uneasy benefits of academic reform must know both to what end they are doing it and in what spirit the fruits of their labor will be received. This, again, takes strong commitment from the top administrative posts of the institution. The commitment could be made more concrete through grant programs, seminars on curricular development, or any number of means.

The next step of a successful strategy for planning would be one of decision as to priorities in the selection of new programs. Despite a call for reform and many concrete proposals to achieve it, reform often fails because planning is, in large measure, political, a question of who has the ability, the right, and the responsibility to influence decisions. Thus many plans founder at that stage between conception and implementation where they fall prey to the numerous groups that set priorities and decide the fate of new programs. What one learns from past planning attempts is that effective academic reform, a strong administration notwithstanding, requires a non-"patriarchal" structure of decision-making. All this means is that a greater pool of valuable opinion exists than is represented by the chairmen of committees and departments and that in order to tap the pool, a structure of decision-making in which these people are dominant must be avoided. It should be kept in mind that institutions labeled as "dynamic" in Hefferlin's study were generally characterized by limited tenure for department chairmen and by a relatively large voice for students and untenured faculty in determining programs.

Once the decisions concerning the programs to be tried are made, their implementation poses another challenge. It is essential that the proposals themselves contain certain ingredients for

success. They must speak directly to the issues at the base of the planning program. They must include realistic expectations about the level of funding, people to be involved, and objectives to be achieved. They must, in one way or another, take Axelrod's "structures" into account, either by using them constructively or by providing ways of changing them. And they must be amenable to evaluation, preferably including a specific plan for this.

While the success or failure of a planning effort depends on many factors, many more than can be predicted beforehand, the important fact remains that planning does not take place in a vacuum. An institution would do well to become as fully aware as is possible of the environment within which it is planning. It should recognize, in particular, the need for incentives to participate in planning, for analysis--and change where needed--of the decision-making structures of the institution, and for understanding of the quality and influence of such structures as faculty-student interaction and expectations as to what a student should study.

RESPONSIBILITIES AND PERSPECTIVES OF LONG-RANGE PLANNING

We have attempted in the previous section to identify the elements of a successful planning strategy. We have, on that basis, reached conclusions about the roles and responsibilities of various constituents of the university. In so doing, we have also defined limitations inherent in the task of a committee like ours charged with defining institutional goals and with developing specific plans for implementation. We will come back to this point in the concluding section of this document.

In progressing toward the stated aim of this paper—to provide a rationale against which to judge future plans of action proposed for this University--we feel that it is one responsibility of our committee to concern itself with a specific set of issues that constitute the background of any planning effort. These are:

- the fundamental forces at play in determining the future of mankind and of the American society within which the university operates;

- the specific responsibilities of a big state university in the rapidly changing milieu which surrounds it;

- the present image of the University of Connecticut in relation to these first two issues;

- possible mechanisms aimed at defining the options open to the University of Connecticut in the coming decade.

In taking this course, we are assuming that the overriding influence on the future of the university is to be found in the relationships between the university and society at large.

THE UNIVERSITY AND SOCIETY

In trying to define the purpose of those institutions that call themselves universities, scholars have assumed that they share some clear and ultimate ends.[15] The variety of functions and responsibilities which American universities, in particular, have progressively assumed over the years indicates that such clear ends, if they exist, are elusive. Not only does one traditionally distinguish between teaching, research, and service but also, nowadays, between the autonomous versus the popular functions, or between the instrumental versus the intrinsic value of knowledge as it affects the role of the university as an institution.

In this preamble, one feature of the university deserves emphasis. Traditionally, the university has been a place where creative thinking could find a refuge from the demands of society. As a result, the university has been in a unique position to judge and criticize the society within which it exists. Heiss[15] remarks that those who understand the nature of institutions of higher education generally agree that in a democracy the university is the primary institution serving as the conscience of the society. This role, and the relationship it implies, have been the matter of many debates. How can one determine an acceptable level of involvement by the university and its faculty and student members, amid the concrete and practical activities of the real world? Is such involvement at all compatible with the autonomous, self-authenticating functions of the university? These questions will be considered in some detail in a later section.

The history of the last twenty-five years reveals a progressive and irreversible evolution. Over the last few decades, the concept of the university as an ivory tower has receded as more and more concrete responsibilities were bestowed upon and accepted--if not actively sought--by academicians. Alien to the traditional role of the university, these responsibilities now extend not only to judging and criticizing but also to advising and participating in decision making of major social and political importance. Massey[9] has summarized this evolution:

> During the preceding twenty-five years the intellectuals played a role in American society to an extent which was probably unique in western history. The economists and political scientists in the Thirties, the physicists in the Forties, and the biomedical scientists in the Fifties counseled with and were supported by those in the corridors of power in a way which had never been known before in America. This was the era of the "Two Cultures" of C.P. Snow, and either because of this symbiotic relationship or coincident with it, the Western World changed at a rate more rapid than any in history.

Suddenly in the Sixties the system seemed not to work anymore, and the apparent turn for the worse which took place presented the intellectuals with a dramatic dilemma. Says Massey:

> The academic establishment blamed itself for its deep involvement in a society which seemed to be, at the best, impudent, at the worst, immoral. If there had been a conspiracy, the intellectuals

> were guilty because they had obviously participated. If there had been failure, they must to some degree share the blame for the general ineptitude. They could no longer accuse the State of being too political; they had been the advisers to the State.

In spite of the mishaps of the last decade, the relationships between the university and society remain of essential importance to the definition of the future of the university. The historical evolution of the last twenty-five years cannot simply be rejected. The university will continue to live and operate within society, and the nature and quality of that interrelationship must be analyzed more carefully than ever before. Long-range planning would be futile if it did not concern itself with what is obviously a key not only to the future of the university and perhaps of society itself, but also to an understanding of the institution which one would seek to improve. In such analysis one must of necessity try to forecast where the world is heading, what society is likely to be in years to come, what specific roles the university, its faculty, students, and graduates will be either allowed or required to play in this evolution.

THE METHODOLOGY OF FORECASTING

The presumption that one can plan intelligently is based on the idea that one can construct somehow an image of things to come, not only within a university, but more generally in society and the world at large. Among scholars feelings are mixed on the usefulness and validity of forecasting tools. Rather than quantifiable data, intuitive methods employ collective opinion and subjective judgment as basic inputs to the forecasting process. In such methods, the validity and reliability of the inputs are not assessed. The usual face-to-face discussions, typical of committee work, have been replaced by elaborate procedures such as the DELPHI technique, which is a questionnaire method for organizing and shaping opinion through feedback.[10] DELPHI has been applied by Uhl to identifying institutional goals in five institutions of higher education, with only relative success.[11] In a series of studies sponsored by the Connecticut Research Commission, the Institute for the Future has used DELPHI and other intuitive techniques to forecast technological and societal events of possible significance for the future of the State of Connecticut.[12] While they eliminate many of the serious problems associated with face-to-face confrontation, DELPHI and other similar techniques do not permit assessment of the nature and validity of inputs, or an understanding of potential sources of bias. Most importantly, they reveal little of the models upon which participants base their opinion. As Weaver[10] puts it,

> It is assumed that experts, within a controlled intuitive process, will make conjectures based upon rational judgment and shared information, rather than merely guessing, and will separate their own hopes and personal motivation from considered judgment in the process.

Unlike intuitive methods, empirical methods do state the model, assumptions, and biases on which the forecasting is based. They try to demonstrate how future events grow out of specific past or present conditions. Typical of these methods are statistical projections, trend extrapolations, etc. Recently, D.L. Meadows[14] reported the conclusions of an eighteen-month study performed at the Massachusetts Institute of Technology. Entitled "The Limits to Growth," the study is based on elaborate mathematical models of the future constructed by computer. It revealed that the current exponential growth in population, industrialization, consumption of natural resources, food demand, and pollution are rapidly approaching the earth's limits. Such evolution would predict the unescapable downfall of mankind, unless some sort of equilibrium is established as soon as possible. The study has drawn much criticism from economists, ecologists and politicians. It has been termed "simplistic," "loaded," and even, an "irresponsible piece of nonsense." The model, others said, is based on insufficient data for the sort of predictions it is risking. In effect, because the methodology used by Meadows explicity revealed the exponential model it used, the criticism was addressed not to the logic of the analysis--which cannot be challenged--but to the underlying assumptions which were in fact selected by a process essentially similar to those used in the so-called intuitive methods.

Other authors reject altogether the premise that models of societal change are available to institutional planners. In a study entitled "Styles of Academic Culture," J. Conway[13] summarizes the opinion of many:

> Much of the discussion of contemporary university problems proceeds on the assumption that we do possess satisfactory models of societal change upon which we can base our theories concerning desirable directions for institutional development. Yet the length and repetitiveness of the contemporary debate on the university illustrates that we are incapable of utopian thinking and that we cannot move beyond pragmatism in trying to imagine forms and goals of the university of the future.

Conway suggests that, in such a situation, history or poetry and metaphor should be preferred to the tools of the social sciences which according to him "may only dull our perceptions."

THE COMING DECADES: "REASONED CONJECTURES"

The limitations of the methodology of forecasting are evident. Whether one chooses an intuitive, empirical, or utopian approach, or a combination thereof, it is clear that one cannot eliminate personal bias from the process. There are, however, a number of fundamental forces at play in shaping up the future of man that everybody must recognize as real if only on the basis of "reasoned conjectures." Actually most forecasters agree that, in the words of Heiss, the nation will soon be caught in a current of forces which are evolving so broadly and accelerating so rapidly that it will transform the basic structures, mores, and values of society by the year 2000. These changes are seen by some as threatening and foretelling of unprecedented hardship, "beginning in chaos and leading to a new dark age." Others prefer to consider these unavoidable changes as a unique opportunity for man to control his future, leading to "great happiness and freedom from the imperfections in human existence." It is recognized that we have or could develop the science and technology needed to decide the outcome. Yet, faced with these problems of global dimensions, humanity seems not to possess the social and political institutions, nor the ethical values, to make the necessary decisions.

THE FORCES AT PLAY

The accelerated pace. Changes of outstanding significance for the human race as a whole have been occurring at an ever-accelerating pace. The processes of life appeared and superimposed themselves on the physical world some two or three thousand million years ago. Two million years ago the first glimmers of a new set of processes--human culture--emerged, a development which was destined to prove perhaps as significant as the origin of life itself. With the development of agriculture, some ten or twelve thousand years ago, man began to manipulate natural processes towards his own ends. Civilization as we understand it is a product of the last few thousand years.

Modern science and technology, which have had the most tremendous impact on the history of man, are but a few centuries old, and more new technological developments have been a part of the experiences of people living today than at any time in the past. Boulding considers that the twentieth century is a sort of watershed, dividing the history of man into two parts. In the first part, which

lasted thousands of years, man moved from a precivilized to a civilized state. At present, in the second part, he is involved in the transition from civilized to postcivilized culture. The rapid occurrence of socio-technological developments during the lifetime of many individuals has led to what Toeffler has described as "future shock," a disorientation experienced by people who are left irreversibly insecure by the changes that have deranged their once familiar environment. The time lag that exists between the determination of goals and their attainment must necessarily be measured in terms of the speed with which man and his technology can now affect the totality of life.

The environmental crisis. The increasing intensity of the interactions between the ancient processes of nature and the new forces of culture have produced the so-called environmental crisis. Without analyzing in detail this complex problem, one can point to three of its characteristics.

- the necessary interrelationship between technological developments and population growth

There are eight hundred times more men today than at the time when man developed agriculture. Such tremendous increase became possible only because of technological developments, including those related to better health and food production. The four billion people now living could not survive without technology, and as the population continues to increase, further technological developments are necessary to improve life, particularly in many underprivileged or overpopulated areas. There has been a series of quantum jumps in the amount of energy utilized by man, to a point where a total of 5×10^{16} kcal are used daily for human activities, an amount equal to all the energy captured by photosynthesis from sunlight each day.[17] As a result of these activities, there is an increased accumulation in the total environment of the products of combustion of fossil fuels, to which must be added a considerable number of chemical compounds produced and consumed in great amounts by our industrial society.

- the necessity, because of the relative and absolute limits of the earth resources, to control, at some point in time, the spirals of population growth, industrial growth, and pollution

In the absence of some kind of control, it is clear that these processes could come to an end through a series of catastrophes which could destroy most of mankind. Many authors, especially biologists and ecologists, are very pessimistic and believe that we

have reached the threshold of collapse. Others hold to the more optimistic view that solutions will be found because groups of serious and learned men recognize the problems for what they are and will find and propose appropriate solutions. They admit, however, that the social and political implications of possible solutions are of such magnitude that they will overshadow by far the technological difficulties of the task.

- economic competition between nations

Boyden remarks that the policy of most governments is based on the creed of modern Western civilization that technological advance and industrial growth are intrinsically valuable and synonymous with progress. Many major national and international crises are a direct consequence of the economic competition between nations. Any effort to stop or limit economic growth would, however, have to face the fact that a more equitable distribution of wealth and resources between nations and, within a nation, between individuals, would be needed to redress present economic imbalances. These inequities are now tolerated by many, partly on the hope that they will some day be minimized.

The search for new values. The problems discussed in the previous paragraphs have a global dimension. Material prosperity in the United States and other developed nations has been directly associated by many with such problems. More than any other group, young people have challenged the value system which, in practice, rules American society. It is, they claim, a value system profoundly different from the ethics said to be the law of the land. They are also challenging those programs and curricula of the university which promote and reinforce the dichotomy they perceive between ideals and reality.

It is very difficult to translate into simple and concrete terms the basis of the critical attitude of the younger generation raised by modern society and educated in its colleges and universities. It is well to recognize that, back from Athens and Rome, youth has always confronted reality with its dreams. It would be a tragic mistake for an institution meant primarily to teach and educate the young, to ignore the message their challenges carry.

Part of the young's attitude reflects obviously an informed understanding of the problems described in the previous paragraphs. Reflection upon the hopeful outcome predicted by some suggests that

many deeply rooted beliefs and societal attitudes would have to be altered. The social and political implications which, for instance, a stabilized, nonexpanding economy would have for society as it now exists are so fundamentally new that they could only be tolerated within a whole set of new values. That such new values will not be accepted without conflict between various sections of society is self-evident.

While it cannot be held responsible for all the ills of society, the university has been seen by many of its young and not so young critics as a major promoter of the values they question. We want to borrow from Heiss[15]--but not necessarily endorse--a partial list of the most important criticisms currently leveled against the university in that respect:

- by building their images, programs, and expectations around the predominantly Western, white, middle class culture, institutions of higher education have substantially advanced the position of individuals in that group, but in doing so have alienated and increased the social distance between whites and all other cultures.

- by failing to adhere conscientiously to the ideal expressed in the aphorism "Let knowledge grow from more to more that human life be enriched," the university has succumbed to the blandishments of industrial and military forces whose research interests have frequently produced ideas and inventions that are antithetical to human life because they threaten man's environment, evoke his aggressiveness toward others, or reduce his capacity to participate in decisions which involve his survival or the survival of mankind.

- by failing to develop academic programs which engage the interests and abilities of students on ideas and activities that are related to their needs as persons, the university has dehumanized education and reduced its appeal to youth.

- by failing to represent in its governance all those who are its citizens, universities project the model of autocratic rather than democratic institutions in the resolutions of its problems.

PREDICTED TECHNOLOGICAL AND SOCIETAL CHANGES

In a recent study, the Institute for the Future attempted to predict what technological or societal changes might affect the future of the State of Connecticut between now and the year 2000. As we have mentioned earlier, DELPHI techniques were employed to generate information about likely technological developments; potential societal developments, nationally and elsewhere in the world; and important issues likely to be of specific concern to the State of Connecticut. As the authors point out, it is more important that forecasts attempt to be comprehensive in their description of alternatives than that they attempt to achieve strict accuracy. The various topics covered by the research of the Institute constitute a valuable list from which to select those items most likely to be of significance for the future role of the university. If and when specific plans for the future of the University of Connecticut are formulated, they should be evaluated against the predictions of the complete study (or a revised version thereof). We merely wish to emphasize here some of the most pertinent elements of the study. One should note that the predicted technological and societal changes are not limited to Connecticut and, therefore, relate to the generalizations of the previous section.

Technological changes. The projected technological advances tell of a changing world in which man is hopefully gaining better control over his environment, his information and himself. The authors indicate that, while such changes may indeed increase health, knowledge, and comfort, they will bring about political and social problems of unprecedented difficulty, for the solution of which new techniques will have to be invented.

The study identifies significant trends in the development of new biomedical techniques, dealing with aging, diseases, and the biology of reproduction. It predicts and evaluates the pervasive use of automation and computers with the attending information explosion. It discusses the need for better control over the environment and the possible development of techniques for the control of human behavior. Among the consequences of these new developments are the outdating of our political, economic, and social institutions, better

science leading to a more complex technology, and as obnoxious as it may seem, the possible development of new methods of warfare leading to new bases for conflict and conflict resolution.

The study also lists a series of possible interventions to direct and affect the foreseen technological changes. Of significance for education, the authors discuss concepts such as banks for educational development, community-based learning centers, joint institutes for engineers and ecologists, differentiation in education between teaching by machines in the cognitive areas and teaching by teachers in the humanistic disciplines. The possible emergence of hard-core, factually based social sciences pervades the analysis.

One example will illustrate the significance of potential changes for the university. In a very recent study[20] the Institute identifies the field of education as the greatest contributor to the size of the market for two-way information services to the home. By the 1980's the potential market in the United States is evaluated at some $20 billion, of which 34% would be related to educational services. The four separate educational services in the category differ in the amount of interaction between the student and the system. The services studied include (a) computer-aided instruction, (b) computer tutor, (c) correspondence school, (d) adult evening courses on television. The study predicts a 10% penetration of all U.S. households by 1975, with between 50% and 80% of the cost of the services paid for by the home subscriber. This development can be looked at as a unique opportunity for the university, or as a fundamental threat to its control over education. In neither case can this be ignored.

Societal changes. The study of the Institute for the Future indicates that the nature of the future of our society is contigent on human intervention, and therefore, its evolution is less inevitable--and predictable--than changes based on physical developments. By emphasizing areas most likely to be affected, the authors identify social structures and human activities which call for study and concern by the university. In developing curricula and setting research priorities, the university should take cognizance of the predicted changes that will affect: urbanization, family, leisure, food and population, health, law enforcement, political structures and values.

Dealing specifically with education, the study highlights the following needs: massive improvements in educational programs for the culturally deprived; decentralization and diversification of education, particularly post-secondary education; greater

involvement of the universities in the problems of the community, either as a result of social science research or through the institution of communiversities where the university and the community would interpenetrate; more specifically, distinction between the humanistic aspect of education reserved to teachers and information transfer to be handled by machines or other techniques, an item already mentioned under technological changes.

These changes have direct implications for the State of Connecticut and define a number of issues and opportunities, some of which are of significance for the University of Connecticut. Urban centers have not kept pace with the growing needs of their inhabitants; the growing urbanization of the State makes the problem more pressing. Equal opportunity for all citizens in housing, employment, and social conditions was found to be an essential element for a successful improvement of the quality of life in the State. Because the State's economy will continue to rely heavily on high absolute value or high added-value products and services, training--or retraining--of skilled personnel will remain a needed capability. It was also felt that the economy would partly depend on the State's capacity to attract and retain managerial and highly skilled people.

Enhancement of the quality of the environment, and improvement in cultural and educational opportunities were considered to be areas of possible impact both in relation to improving the economy and to minimizing the divisions among societal groups.

THE UNIVERSITY IN AMERICAN HIGHER EDUCATION

It is not the goal of this section to try to define the nature and purpose of universities. The literature on the subject is practically endless. The classical studies of Newman, Jaspers, and others have been paraphrased many times over and this proliferation has made a fresh view on the subject very difficult to come by. We want to address ourselves instead specifically to the widening responsibilities of big, state universities, to their evolution over recent years, and to the implications of this evolution for their future.

Conway's study entitled "Styles of Academic Culture" provides a very useful historical perspective on the role of public education in American society. Mann, he says, was the first educational theorist to state clearly that schools were important agents of social and political stability. Developing universal education was thought to be the key to the preservation of social democracy. Later, Dewey challenged the assumption that teaching the literary and aesthetic values of the classical curriculum would allow schools to function as agents of democracy, and he proposed to modify the curriculum and to redefine the functions of schools so that all pupils would see themselves in the same relationships to the means of production. This "Marxist" view of culture, according to Conway, led to revisions of the curriculum which created connections between school and social equality but caused a cultural loss, the significance of which has gone largely unrecognized. In spite of his biases, Conway's concluding paragraph is worth quoting because of its general value as a warning that schools cannot necessarily fulfill all the functions people have come to expect of them:

> The educational community is automatically perceived in America as the community that can solve all social problems. In fact, the instinctive American response to the perception of a social problem is to devise another educational program to deal with it. Such a response harmonizes the democratic urge with the future-orientation of capitalism. Today, however, this response stands revealed as politically naïve because the mediation of conflicts is essentially a political task and cannot always be reconciled with intellectual goals.

In fact, many of the paradoxical difficulties encountered by universities at a time when they have more students, more programs, and more resources than ever before stems essentially from the tensions created by the multiplicity of their functions, many of which are, if not mutually exclusive, at least difficult to integrate or reconcile. This problem can be looked at in a variety of ways.

The first element of the problem is one of numbers. Already in 1969, the some 2,500 colleges and universities of the American system of higher education enrolled over 40% of the age grade and over 50% of high school graduates.[23] These statistics have been steadily increasing, and in some states such as California, as many as 80% of the high school graduates go through some form of post-secondary education. These numbers mean that the system is evolving from one of mass education to one of universal education. The movement is characteristic of American colleges and universities and, particularly, of its public sector. It contrasts with the diversified systems existing, for instance, in many European countries, where the university continues serving small elitist groups and stays away from what is called technical or vocational higher education. The increase in numbers has led to a second problem, increase in the tension between the autonomous and popular functions of the university.

AUTONOMOUS AND POPULAR FUNCTIONS

Autonomous functions relate, according to Trow, to those activities and purposes which the university defines for itself. These are the functions that are justified by a self-authenticating process. They include the custody and dissemination of knowledge and of those moral and aesthetic elements of culture that are the basis of civilization. The search for new knowledge through scientific and other scholarly endeavors represent a second aspect of the autonomous functions of the university. Finally the university selects, trains, and certifies elite groups for furthering the autonomous goals of the academic world but also for the professions, business, the civil service, and the arts.

The certification process is the first one which has produced tensions between autonomous and popular functions. By imposing on the university the responsibility of certifying not only those selected individuals whom the university singles out but, for all practical purposes, the majority of its youth, society has perverted the original meaning of degrees. From being a formal recognition of special talents, the degree has become the indispensable certificate which is used by employers and other social groups outside the university as a means of evaluation for their own purposes. The autonomy of the university in that respect is still real but it is being

challenged, as the recent efforts of the Commission of Higher Education of Connecticut to deal with the issue of external degrees and credit by examination reveal.

Popular functions of the university are best defined by two objectives which have become progressively more overwhelming for public education. The first one, dating from the end of World War II, is the wish to see as many students as possible pursue education beyond high school. Though it has intrinsic value, this objective, by the sheer numbers it involves, has very much affected the climate of higher education. Attending the university which used to be a privilege associated with talent and ambition, has become a right, which has rapidly evolved to something approaching an obligation. Getting the needed degree has become an end in itself for which one has to suffer through the necessary number of years or credits.

A second objective which defines the popular functions of the university derives from the fact that the university is seen as a source of useful knowledge and services for nearly every societal group or institution that needs it or wants it. The service orientation of American higher education is, in some respects, unique. It has been observed that such close association between business, universities, and government has never been perfected, or successful, in any European country. The number and variety of services for which the university is responsible has also increased considerably over the last decades. Agricultural extension services no longer serve only the needs of farmers and mechanics but they are also teaching the urban poor how to provide for themselves better.

External pressures have altered the certification process and modified it from an autonomous, almost internal, form of recognition into a universally accepted means of evaluation. The same pressures have also blurred the distinction between research for its own sake as opposed to research toward specific ends, which, in many instances, is a glorified and remunerative form of service. This evolution toward less distinction between autonomous, scholarly research and oriented research is at the center of debate about graduate universities. In a recent survey, Heiss asked some 1,400 faculty members which of the following statements came closest to their own view:

> (1) Knowledge is its own reward. The advancement, preservation, and dissemination of knowledge are valued ends in themselves. Although the university is detached from society, its activities lead to gradual social improvement.

(2) Knowledge has both intrinsic and instrumental value. Hence, the goals of the university ought to be two fold: to seek knowledge, basic to the concerns of mankind; and to provide education in intellectual analysis for those who will bring social improvement.

(3) Knowledge has intrinsic value, but its primary value is derived from its instrumental uses. The university ought to be directly involved in defining and serving social needs.

It is interesting to note that there were only slight differences in the responses from private universities and from publicly controlled universities. Of those who accepted one of the statements, 81% selected position 2, 14% selected position 1, and only 5% chose position 3.

A significant number of respondents designed their own response on the basis that it was counterproductive not to incorporate the substance of all three of the given viewpoints. This wish to see universities fulfill both autonomous and popular functions has led to what Trow calls the academic division of labor.

MULTIPLE FUNCTIONS OF STATE UNIVERSITIES: DIVISION OF LABOR

Faced with such diverse objectives as teaching the masses and promoting basic research, colleges and universities have managed to remain effective by dividing academic labor between and within institutions. Many schools are indeed essentially single-function institutions. Many teachers colleges, junior and community colleges are serving primarily vocational needs. Other schools serve exclusively to prepare students for graduate and professional schools, which are themselves often geared to limited goals.

Big state universities perform both autonomous and popular functions within the same institution and are therefore directly confronted with the tensions and ambiguities associated with this dual role. Those schools that are presumably not involved in both types of activities, notably state colleges and some junior colleges, have exhibited aspirations to become so. The considerable growth of the last decades has been accompanied by a desire to move up to higher levels of education and more prestigious types of activities. For example, graduate work has been initiated at more and more schools. It is revealing to note that of 240 graduate institutions, 50 account for 90% of the Ph.D.'s awarded yearly. Many of the remaining 190 institutions award one or two degrees per year and sometimes none.

State universities together with state and junior colleges have very often taken charge of the increased numbers resulting from expanded enrollment. It is remarkable to note that in Connecticut, the University has maintained the size of its entering freshman class at about 2,000. It is equally remarkable that the University of Connecticut has remained the state's only public institution awarding the doctorate.

State universities also provide community services of all kinds, including the training of teachers and of the many new professionals and semi-professionals required by modern society. Connecticut is no exception to that trend. State universities have, in addition, complete curricula in liberal arts and sciences. They are also centers of scholarship and research in many academic and not so academic subjects. In those respects also, the University of Connecticut follows the norm.

Having both autonomous and popular functions with a single institution is a mixed blessing. To protect the precious but vulnerable academic autonomy of the university, one key mechanism has been to insulate popular from autonomous functions in order to insure survival of liberal education and basic research and scholarship in spite of the pressures for more services or greater numbers to be served. At the same time, people have tried to take advantage of the presence within a single institution of such diversity of talent and competence. As a result, the insulation mechanisms have been strained considerably and, oftentimes, regarded as impediments to progressive change or, worse, as protective mechanisms for an indifferent faculty.

These mechanisms take many forms and they should be recognized for what they are; their usefulness and efficiency might gain if they were more clearly identified and their purpose made explicit. Trow describes some of the mechanisms of insulation in the following terms: "These insulations take various forms of a division of labor within the university. There is division of labor between departments, as for example between a department of history and a department of education. There is a division of labor...between the undergraduate and graduate schools, the former given over largely to mass higher education in the service of social mobility...while the graduate departments in the same institutions are often able to maintain a climate in which scholarship and scientific research can be done to the highest standards....More dangerously, there is a division of labor between regular faculty and a variety of fringe or marginal teachers who in some schools carry a disproportionate load of the mass teaching." It is easy to apply this analysis to the University of Connecticut, looking for instance, at the differentiation that exists between the main campus and the branches. We will come back to that point in the next section of this paper.

CONSEQUENCES OF STRAIN

Trow feels that the enormous expansion of American higher education is putting great strain on the insulation mechanisms and is therefore threatening the autonomy of universities, particularly that of public institutions. Expansion of the university's roles involves it directly in more and more controversial issues and therefore increases the number and types of publics interested in what goes on on the campuses. Politics intrude onto the campus and threaten the procedures by which the universities govern themselves.

The more direct form of political intervention calls not only for responsiveness to state needs, but also for accountability for educational results. Poorly informed outsiders can see no correspondence between the increasing costs of higher education and the quality of the university output. Students do not seem better prepared for their role in society; if anything, they have only developed serious misgivings about the ways in which society operates. In spite of having more scholars and more researchers--with higher salaries--there does not seem to be an appreciable increase in the quality or reputation of given universities. At least, such increases, if they exist, are not readily apparent outside the campus, and returns on the investment cannot be measured by traditional accounting procedures. Cost effectiveness has become a preoccupation of many university administrators in their efforts to retain some fiscal responsibility in setting priorities for the development of new programs. One good example is the attempt at defining teaching loads on the basis of various indices, such as contact hours, class size, etc., presumably measuring the quality of education. Efforts to relate costs to benefits of higher education are being made in many quarters. One pervasive principle is the idea that education will now have to compete with other "clients" of public support on the basis of outputs. Definition and evaluation of such outputs remain a very delicate matter, but the time is past when the quality of an educational system is being judged on the basis of what it costs to operate rather than on the basis of its returns to society.

The general description of the state of the university proposed in this section constitutes a dimension of long-range planning. It defines further constraints within which one has to consider how the university can choose or reject specific options for its future. Before establishing how these constraints relate to the predicted future of the society within which the university operates, we will attempt, in the next section, to sketch the University of Connecticut and to illustrate how its peculiarities make it alike or different from other big state universities.

THE UNIVERSITY OF CONNECTICUT

In the fifteen months since the Long-Range Planning Committee was created, a great many notions about education and about reform at UConn have been aired, not only in the Committee meetings themselves, but in the twenty task force groups that met last spring, in the reports of various campus groups, and in the face-to-face discussions with members of the University constituency. While relatively few concrete recommendations have resulted, a strikingly coherent picture of the University, its strengths and weaknesses, has emerged. It is this picture that we will attempt to present here as one context within which future planning must take place.

The University of Connecticut is hardly unique in many respects. Its history, governance, and present orientation place it in a class of institutions--former land-grant agricultural colleges that have emerged as major state universities within state-wide systems of higher education. As a member of this class, the University has certain prescribed responsibilities, and certain types of influences are bound to direct its future.

On the other hand, the University is in some respects unique. It is the largest public institution of higher education in Connecticut. It operates the state's only public graduate school and professional schools in the areas of social work, business, medicine, and law. It encompasses facilities and competencies that are unequalled in scale, comprehensiveness, or quality by any other public institution in the state. These facts point to opportunities that the University is uniquely equipped to provide, and it would seem advantageous for planning to capitalize on these assets.

In analyzing the University's particular situation, it is important to remember that the situation itself does not define the outcomes. Strength in one area does not rule out the development of other kinds of strengths. Similarly, a seemingly prescribed weakness may often be circumscribed by imaginative planning. What follows is a sketch of the University as it appears today. The full picture can be provided only through planning for future options.

GROWTH AND THE UNIVERSITY

The University of Connecticut has in the past few decades experienced unprecedented growth, as has higher education in general. It is now apparent that financial contingencies, along with other factors such as demand, make continued growth on this scale out of

the question. In fact, a general tightening of belts is in order, for the immediate future at any rate. The University community, geared to planning for increases in students, faculty, and staff, new courses, departments, institutes, and programs—and, by extension, larger budgets--has suddenly been told to cut back on budgets, and hence all that depends on them. Along with its implications for morale, this fact has far-reaching implications for planning.

Several groups have examined the University with these considerations in mind. In particular, the Etherington Commission and the University's own Long-Range Financial Planning Committee have presented concrete recommendations for conserving the University's financial resources and increasing the efficiency with which they are used. (In the old days, commissions sought ways to increase financial resources.) These recommendations are controversial, as recommendations to tighten belts are bound to be. The major fear is that by limiting growth you also limit the possibility for improvement. In fact this assumption appears to underlie some of the recommendations themselves. But this is not necessarily the case. The challenge the University now faces is to consolidate the gains of the period of phenomenal growth and to find ways to improve through reorientation, reorganization, and selectivity rather than through growth.

ADMINISTRATION OF THE UNIVERSITY

One result of the University's past growth is that the structures for governance, communication, and decision-making are suited to a smaller institution and simply cannot hold up under the load now placed upon them. This is also true of certain purely operational structures, such as purchasing. Whereas some administrative tasks have been completely reorganized, in some cases computerized, another frequent response to the increased load has been simply to add another extension to the existing structures. This has been particularly true with regard to planning and decision-making, and it has led to ambiguity as to responsibility and to faulty communication among groups with similar concerns.

One manifestation of this problem is a general sense of futility about proposing University-wide reforms. This was particularly apparent in the course of organizing task force groups for long-range planning. A majority of faculty members wanted to know to whom they would make recommendations and who would decide about implementation. Several declined to participate when they did not get the answer that satisfied them. But the problem has been an on-going concern for all, both in organizing the long-range planning group as a whole and in discussing how recommendations might be implemented.

The ambiguity as to which groups or people within the University are responsible for certain types of decisions and have the power to make them leads to a feeling of impotence, sometimes even on the part of those groups that do have the responsibility. The overlapping concerns that are inevitable among decision-making groups can become bones of contention rather than areas for joint exploration, meaning that one group cannot benefit from the information or conclusions developed by the other. This may be witnessed in everything from student government to faculty Senate committees to presidentially appointed committees.

There is overriding suspicion that someone else will determine the fate of any new proposals, that that someone is unalterably opposed to change, and that it is difficult to influence the decision, because it is not known who that someone is. Occasionally "someone else" goes by the name of "red tape," making it clear that it is not one authoritarian group that is causing the damage, but the unwieldy process whereby change must come. The Commission on Governance, chaired by A. K. Cohen, which has recently made its report, may well improve this situation by informing the University community of how certain decisions are made, if for no other reason, and perhaps by actually bringing about organized structures for governance. New structures of communication and decision-making are also prerequisite to a broader willingness on the part of students and faculty alike to become involved in decision-making and to support outcomes. Broader representation on the decision-making bodies would do much to increase confidence in their decisions.

At the level of University operations also, a sense of futility results from overtaxed structures. Faculty members in the sciences take for granted that six months must be added to the time ordinarily needed to get a Ph.D. simply to allow for the delays which will be encountered in purchasing experimental equipment. When an administrative system obstructs, rather than expedites, one of the basic functions of an institution, it is time to rethink the organization of the institution's supportive services.

THE STATE AND THE UNIVERSITY

As a state university, the University's primary constituency is the State of Connecticut, meaning that it must be both responsive and in some manner accountable to state needs. What this means for the actual governance of the University is not so clear and is at this time the subject of hot debate. Is the Board of Trustees the proper body to set the institution's goals and monitor its program? Or,

because of its responsibility for state budgeting and its desire to see that specific state needs are met, is the state legislature the more appropriate body? Can the Commission of Higher Education assure coordination among the state's several public institutions of higher education only by setting the policies and programs of each of these institutions?

Naturally, those within the University community firmly maintain the right, as well as the appropriateness, of the Board of Trustees (with input from University groups) to set University policy. Political contingencies can only cloud long-term University goals and hamper the achievement of its purposes--which include both autonomous and popular roles. Institutional distinctiveness is as vital to a state system as is coordination. Yet the University community must now realize that these basic assumptions no longer go unchallenged and that it must be prepared to demonstrate their validity in a supportive relationship to the Board of Trustees. The elements of responsiveness to state needs, accountability for educational results, and coordination with other state institutions, elements that the legislature seems to feel are lacking, must be supplied in other ways if loss of institutional autonomy is to be avoided.

STORRS, THE BRANCHES, AND THE PROFESSIONAL SCHOOLS

The Storrs campus, the primary locus of the University, is rural, separated from the nearest urban center by twenty-five miles with no system of public transportation. The University's branches and its schools of social work, law and medicine, however, are predominantly urban. It is generally agreed that these components are qualified by their location alone to play different roles in the state system. But it is also agreed that the branches, by virtue of their organizational relationship to Storrs and the roles they have been assigned, are relegated to the status of second-rate Storrs campuses. There is obvious eagerness among those at the branches to change their status and to develop distinctive purposes. Avery Point's task force proposal for a cluster-college experiment is but one example. Their special characteristics of smaller size or urban setting or both open up tremendous opportunities for new and special educational relationships to the surrounding communities. They might experiment with types of liberal arts curricula, continuing education, vocational training, work-study, and a whole range of programs that would be inconceivable at Storrs. Yet branches seem to be pressed more and more into the mold of the parent campus, without having its resources for that type of program. The issue is not merely one of governance. It is also not simply a question of how the branches might better prepare students to become Storrs upperclassmen. It is a matter of identifying the branches' particular assets and of finding ways to utilize them to increase the options provided by the University.

The professional schools, which all have urban locations, are developing along lines and models of their own, even though they maintain, in many instances, direct academic relationships with the main campus. The Health Center, which comprises the School of Medicine and the School of Dental Medicine, is one good example. The schools have developed strong basic science departments of their own. The Center, however, also considers that its responsibilities include participation in developing and improving the system of health delivery and in the efforts made by the medical and dental community to those same ends. For instance, the Health Center has developed a vast network of associated and affiliated hospitals to reinforce the links between the academic world and the practitioners. It is also involved in the training of paraprofessionals. Through its research and graduate programs the Center is intimately associated with the main campus at Storrs. Similarly, the other professional schools provide the University with unique opportunities in its possible role as an agent of societal change.

Being situated primarily at the Storrs campus, this Committee has looked most closely at the situation existing here. Although some of the descriptions of students, their educational programs, and the teaching, service, and research roles of the University that follow can be generalized to include the branches and non-Storrs professional schools, they are intended primarily as an analysis of the Storrs campus.

STUDENTS AND THE UNIVERSITY

A fair amount of attention has been paid by the University administration to the attitudes and expectations of students on the Storrs campus. The Office of Institutional Research surveys students every spring on the courses they have taken and also on their feelings about their educational experience in general. Walter Kaess recently completed a five-year study of the ethical values of students on campus for the Student Welfare Committee of the University Senate. Together, these give us a relatively complete picture of the relationship between the students and the University.

On the positive side, the majority of students are pleased with the quality of the education offered at the University. They consider the University's atmosphere to be intellectually stimulating and its reputation to be an asset in getting a job after graduation. This is qualified, however, by many individual complaints about the quality of teaching, about various regulations, and about the depersonalized nature of the education process. In addition, over the past few years, the number of students expressing outright satisfaction

with the education they receive at the University has steadily declined, indicating either that the University is not meeting the felt needs of the students as well as it has in the past or perhaps that students are expecting more from an education than they did previously.

On the other side of the coin is the distinct lack of community felt by students. Participation and interest in student government is low. The campus is virtually deserted on weekends, and fewer and fewer organized social events are planned. While students continue to make lasting friendships and to find compatible living arrangements, the sense of a larger student community is missing. In part this might stem from the essentially nonidealistic orientation of the students, for despite a few very vocal exceptions, students see their time spent at the University as a way of getting better jobs, making friends, and improving their lot in life, rather than as preparation for creating a better world.

This picture is quite different from that usually drawn of the modern university student body. Students are perhaps more satisfied and less united behind a cause than they are often assumed to be. They, as much as the faculty and administration, may be accepting of the inconveniences and indignities required by the educational process, feeling perhaps that getting a degree is a worthy end in itself. One way in which students do seem to fit the popular image, however, is in their growing sense of distance between themselves and the faculty and administration. Certainly this is one result of the University's size, but one might also ask whether it does not also reflect changing life-styles. Although students seem to share the life goals of a rewarding occupation, warm personal relationships, and a degree of security with their elders, their ideas about how these things are achieved may be changing.

EDUCATIONAL PROGRAM

Probably the most controversial issue on this campus, and on many others, is the educational program, what is taught and how. Certainly the majority of the long-range planning task force groups selected aspects of the educational program for focus, and most of the literature on higher education deals with this topic. Everything from the scope and depth of knowledge required for a degree to the teaching styles that are most effective is subsumed under this heading, so it is no wonder that it is the subject of much debate. At the base of the debate is a general desire to increase individual educational options without losing the capacity to educate increasing numbers of people, and to be able to cater to a variety of learning styles without sacrificing control over educational standards. Despite general agreement as to these broad goals, however, there is no clearcut way of accomplishing all of them together.

The University has developed an extensive and diverse educational program. Students may prepare for specific occupations such as teaching or the practice of veterinary medicine. Or they may pursue a general liberal arts curriculum at the undergraduate and scholarly study of a particular discipline at the graduate level. In this sense, the University does offer students a variety of options for learning.

The relationships between the education offered in all these areas and the ways in which students hope to use their education are, however, subject to criticism. In keeping with a national student concern for how the knowledge and skills learned at college apply to real-world situations, the students at UConn also question the "relevance" of their education. The Kaess study points this up in the high proportion (30%) of students who found their "courses irrelevant to society." Courses and programs are continually added at the University in the conviction that these new areas, particularly interdisciplinary ones, are essential to a major university's educational program. The fact that many of these courses and programs of study are offered for years without having any students in them points perhaps to the difficulty of trying to second-guess the directions in which student interests will run. It also points to the possibility that it is not the content but the organization of the educational program that is at fault. Maybe it is not lectures or seminars on a new body of information that is wanted by students, but new ways of learning established areas of knowledge. This possibility is underscored by the number of suggestions for increased opportunities for field work, internships, and work-study programs that have come out of both this long-range planning group and national planning groups.

The advisory system of the Graduate School is one of the distinguishing characteristics of the University's educational program. The student plans and carries out his program under the supervision of his major adviser and associate advisers. This advisory committee is responsible in theory only to the Dean of the Graduate School. As stated in the Graduate Bulletin, under the advisory system "student programs are individually planned and there is considerable flexibility in meeting special needs and aspirations insofar as these are consistent with the academic objectives of the Graduate School."

While this arrangement satisfies many of the requirements for individualized education, it is constrained by the fact that, at the level of the Graduate School administration, "academic objectives"--that is, balance among and within program areas, quality controls, etc.--must be maintained. What is presumably an open-ended system of program planning must, in the last analysis, meet the requirements set by the Graduate School.

This problem is compounded by the fact that, as courses and programs proliferate, so do the difficulties of maintaining standards and coordination without an excessive bureaucracy. The list of Ph.D. and master's programs recognized by the University is now about four times as long as that of any other New England university. The Executive Committee which advises the Dean is, by its own confession, no longer able to make knowledgeable judgments about the programs of individual students in all these fields. The result has been that in some fields, such as physics, departmental requirements have been used to assure the degree of uniformity in the core curriculum of all students in the field that the department deems appropriate. Hence the flexibility of the program is diminished and the bureaucracy involved in approving a student's program is increased. In other areas, particularly the interdisciplinary fields, formal requirements are minimal, with an apparent lack of overall quality control and coordination. Neither of these arrangements provides optimum flexibility and at the same time fulfillment of the University's "academic objectives."

At the undergraduate level too, there is a conflict between the need for a coordinated, high-quality educational program and the desire for flexibility in planning individual programs, but at this level there is no tradition of individualized program planning as there is in the Graduate School. The Kaess study of students revealed that the sense of being "treated like products" was the major student criticism of the academic program at the University. Indeed, a large number of the suggestions that emerged from the task force planning groups dealt with ways of increasing individual options for study at the University and with increasing opportunities for developing close relationships between teachers and learners. Cluster college programs, tutorial arrangements, and elimination of prerequisites and distribution requirements were only a few of the suggestions.

The weaknesses in the graduate and undergraduate educational programs at the University of Connecticut can, like many other things, be attributed in large part to the University's rapid growth and current size. Courses and programs in all the schools have proliferated. Distribution requirements, prerequisites, and other structures are used to keep a semblance of order among the multitude of offerings. As a result, many students feel guided more by these structures than by their own individual interests. Another result of size seems to be the lack of supportive relationships between faculty and students, especially at the undergraduate level. This is not solely a matter of faculty-student ratios, as is so often assumed, but also of the frequency of contact among the same faculty and students. When a student has a different professor for each course, he is less likely

to develop a personal relationship with one professor than if he is exposed to only a few professors during his academic career, as might be the case at a small institution. It is neither likely nor desirable that the University return to its small size of earlier times, but with the advantages that size offers in terms of the numbers of students that can be educated and the variety of educational programs that can be maintained comes the responsibility for seeing that the students and programs are brought together in ways that actually do increase the individual student's options and his opportunities for effective learning.

TEACHING

The subject of individual teaching styles and their effect on students and the educational program is worthy of special mention. Students at the University have voiced dismay, both on the annual course survey and in the Kaess study, at the low quality of teaching that it is possible to find at the University. Putting aside the question of correlation between what students learn and how they rate their instructor, it seems reasonable to expect that an institution which has teaching as a major function should employ people in teaching positions who have some abilities in that area. The difficulty of measuring teaching ability is part of the problem, but only part. The fact remains that teaching ability is often not the primary qualification for hiring and promoting teachers. For the near future at least, the surplus of Ph.D. holders wanting jobs may mean that people with higher qualifications of all kinds, including teaching credentials, will be hired. In the long run, however, means should be found to assure a minimum level of teaching ability among those hired and promoted.

The University does have a system for student evaluation of teachers that provides feedback to teachers on how they are doing. The use of such a system in promotion and tenure decisions, however, raises a myriad of problems with regard to the accuracy and weighting of the measures. Perhaps there are other means of approaching the issue through the University's own training of people who will become college teachers and through in-service assistance to faculty members who lack teaching experience or who have poor faculty ratings.

THE SERVICE FUNCTION

In discussing the University's service function, Long-Range Planning Committee members expressed uncertainty as to the extent of the current service commitment. We therefore collected information about the University's formal programs of service to the public to clarify the matter. The number of such programs was larger than had

been expected. No doubt this large service commitment is part of the University's heritage as a land-grant institution, a heritage which has now expanded to encompass more than the original agricultural focus. The services are inextricably a part of the University's concern for education and the uses of knowledge and research results, as may be seen in the various ways they are organized.

In some cases, service units have been especially organized to serve the needs of a particular group of people. The Cooperative Agricultural Extension, serving farmers and more recently the urban poor, is, of course, the primary example. There is also, however, the Labor Education Center for unionized workers, the Institute of Public Service for government workers, and even Continuing Education for Women for adults in need of educational or vocational assistance. These services draw on University resources to gear programs of practical education, guidance, and research to Connecticut residents who are not part of the regular student body.

Other services are carried out under departmental auspices. Programs are occasionally organized by faculty as an official channel for their expertise, which they feel has particular relevance to certain real-world needs. The Economic Education Center, the Curriculum Center, and the Center for Real Estate and Urban Economic Studies are examples. But numerous faculty members give liberally of their time and knowledge on an ad hoc basis as well. Departmental service programs also serve as training grounds for graduate students who will enter service fields, as is the case with the Speech and Hearing Clinic and the Education Resources and Development Center, in particular.

In addition, a few special service programs have been started with one explicit purpose in mind. The educational enrichment program for high school students and the Research Center for Wildlife Diseases are examples. And many University divisions that serve the campus also play large public service roles, as does the Radio and Television Center.

Yet while these services form an integral part of the University's research and educational commitment, one clear problem with that relationship exists for virtually all of the service programs. They are regarded as nonacademic extensions of the University's role and as such are not accorded the respect or priority of academic undertakings, even to the point of having different--and less desirable--hiring, promotion, salary and tenure policies. The reason for this situation seems to be that the means of recognizing and rewarding service activities do not meet the generally accepted criteria for scholarly endeavor. This problem is not easily solved, for it exists

in the context of the historical development of the whole university system and of present-day realities with regard to job status. The alternative recommended in the report of the University Extension Advisory Committee in June 1971--a single division of Continuing Education and Extension Services--may be too narrow an approach to a problem of these dimensions. A solution to the ambiguous position of service in the University may require not just reorganization, but a reorientation of some of the University's research and educational objectives as well.

RESEARCH AT THE UNIVERSITY

The relatively little concern expressed over the research programs of the University during the course of this planning effort seems to indicate that it is an area of strength within the University. Undoubtedly the Research Foundation has done much to foster this strength. It has helped to attract faculty and students with interest in research and to support research efforts under way. As an unambiguous focal point for the University's research function, it obviously serves an important purpose.

As might be expected, the evidence of a strong research orientation has been taken by some to indicate weak teaching and to lead to their recommendation that it be deemphasized in order to improve teaching. We might reiterate here the consistent findings by those who study higher education that there is no negative correlation between the strength of research and of teaching at individual universities, rather the reverse is more likely to be true. In an informal, DELPHI-based survey of the Long-Range Planning Committee members themselves, we found unanimity in the belief that research is justifiably strong at this University and that teaching requires strengthening, but there was also explicit agreement that the quality of research need not be sacrificed in order to improve the quality of teaching at the University.

One difficulty with the University's research role that was identified by the planning group centers on the lack of guiding principles for the research efforts of the University seen as a whole. New areas of research are adopted more for pragmatic reasons than because of their relationship to other research programs already in existence at the University or to graduate training objectives. The recently appointed committee on research strategy is charged with providing "a set of carefully developed policy positions which, in the aggregate, would provide a flexible yet coherent framework within which the University's research activities will have growth [sic], purpose, and coherence." The Committee, which will complete a report

by the end of the 1972 year, will explore such issues as the substantive areas in which basic or applied research should be expanded, curtailed, or initiated; the interrelationships between scientific and technological developments and the traditional humanistic approach toward higher education; and the degree to which interdisciplinary approaches are advisable and the extent to which special devices such as institutes should be created. The efforts of this Committee will, it is hoped, lay the groundwork for a clearcut statement of University research goals and policies to guide future development.

While the research orientation of the University is strong, it is difficult to rank UConn as a first-rate research institution in relation to other state universities. The imposition of tuition and the resulting difficulty experienced by many departments in competing with other institutions for new graduate students reflect this fact. Despite the internal support of research, the University does not have the national reputation or enough big research names to be assured of attracting the best graduate students, or even new faculty, on the basis of prestige. Availability of funds has in the past been the major key to strengthening research here. If funding continues to grow tighter, the current comfortable position of research within the University may suffer.

ACADEMIC SUPPORT SERVICES

In addition to departmental facilities for study, there are, of course, facilities or services operated for the University as a whole. Among these number the Library, the Computer Center, and the Audio-Visual Center. Again, the relative lack of discussion about these services by the long-range planning group was taken to reflect satisfaction with their operation. Students have specifically expressed their satisfaction with the first two.

The Library contains over one million volumes and it also has approximately 500,000 items in microform. It thus ranks as a major university library. As the library staff itself is quick to point out, however, sheer numbers are deceptive because of the pressure, applied by accrediting agencies in particular, to concentrate on numbers of volumes rather than the quality of the collection or its relation to the scholarly interests represented on campus. Indeed, a number of departments are anxious to develop libraries of their own in order to assure that their needs are met and that the materials are easily available to faculty and students. Such a move, however, is contrary to University policy, which emphasizes strengthening the central library first. The library staff is aware of shortcomings in the collections and in methods for administering it. It is also anxious to create new and more diversified roles for the library, taking advantage of new media and new library systems.

As with the Library, the Computer Center and the Audio-Visual Center seem to satisfy most of the needs for data handling and teaching/learning aids on campus. Again, however, there are obvious possibilities for additional uses for these services along the lines discussed earlier in this paper--a curriculum based on computer-aided study, more extensive use of media for classroom teaching or independent study, and so on. The demand for such services would have to exist on campus, however, before the groups could be expected to develop them.

PLANNING AT THE UNIVERSITY OF CONNECTICUT

Because this paper is intended as a position paper, defining hopefully clear rationales against which to judge future plans proposed for the University, it will contain no recommendations for specific courses of action, with one exception.

In an effort to emphasize the importance of the matter and to lessen the chances of its being overlooked, the Committee recommends that:

> "To sustain a spirit of self-examination and self-renewal, the University establish permanent institutional devices including:
>
> (a) a standing committee of the Senate, with student membership, which would serve as the unambiguous focal point for the evaluation of new or existing programs, deemed by the Committee to be of importance for, but not necessarily limited to, the academic functions of the University;
>
> (b) an Academic Planning Office, closely related to the top administrative echelon of the University, which, in short-range terms, would assist faculty, students, and administration in obtaining the data upon which rational planning depend, and, in long-range terms, would be responsible for the development and continuous revision of a long-range plan for the totality of the institution."

These institutional devices should be established through the consolidation and/or redirection of existing academic and administrative structures, toward the end that communication and decision-making on planning for the University be centralized and streamlined rather than further fragmented.

When it addressed itself to the matter of planning, the Commission on Governance expressed the opinion that responsibility for planning should be distributed among the University structures. While we endorse the intent of the Commission's recommendation, we do not think that it is realistic to expect that all faculty members will have the time or energy to involve themselves in all the aspects

of planning. Their input is essential but appropriate mechanisms must be available to channel their input and that of others at appropriate points in the planning process. Logistical support for such activities is a necessary prerequisite. The Committee's recommendation is based on such considerations.

We consider key to the feasibility of our proposal the notion that the standing committee of the Senate would take the initiative in selecting programs for review, for it could not cover everything with the depth that is required. This initiative must of necessity be influenced by certain circumstances such as the urgency of the need for an evaluation of specific programs or the areas that cause particular controversy or administrative difficulty. The criteria used by the committee in reviewing programs should rise above the day to day difficulties, however, and remain concerned above all with the overall scope of purpose of the institution as defined by the board. These criteria must be clearly defined and publicized in order to make the committee work more than arbitrary housecleaning.

The planning office is conceived as an entity with both the visible backing of the top administrative echelon and open lines of communication with all segments of the University community. Its services would be generally available to faculty, students, and administrators, but the proposed evaluation committee of the Senate would be granted special privileges in gaining access to the resources of the planning office. The planning office would thus serve clearinghouse for ideas and information. In order to accomplish this, it would have to be attuned to outside sources of information on the goals, philosophies, and data of higher education. Internally, it would have to keep abreast of developments and plans of all the schools, departments, and other University committees. We want to emphasize that it is extremely important not to divorce planning for the University from its core academic functions. In particular, a planning office as we have described would have to include personnel with a thorough understanding of, and continuous contact with, the academic functions of the University.

The recommendation embodies many of the lessons learned in the review process that this Committee has undergone. As was noted earlier, the difficulties in establishing a consensual basis for every decision or priority taken in academic planning would defeat any attempts at progress. A smaller, representative group is, therefore, necessary to make these decisions.

Another lesson has been that on this campus, in particular, the lines of communication and decision-making seem to have become snarled as they have increased in number. Two discrete foci for

planning, each with a separate function, but with strong communicational ties to groups with planning concerns, seems needed to override the knot of confusion about responsibilities for planning and implementing proposals.

The Committee's recommendation also takes into account the fact that evaluation is a part of the planning effort which is a legitimate responsibility of the faculty. It also establishes the principle that evaluation should not be limited to the desirability or feasibility of new programs but should extend to the achievements of experimental or well-established programs of the institution.

With the mechanism prescribed by the foregoing recommendation, the University should be able to proceed in choosing its options and formulating its plans for the future. As was alluded to earlier in this paper, there are limitations to the role of this Committee by virtue of its position within the University community. It would be inappropriate, and probably self-defeating, for such a body single-handedly to set goals for the University, develop specific plans, and see that the plans were carried out. This is a task that must employ both broadened input from the University community and a well-defined mechanism through which the input may be channeled, allowing for continuing participation by the University community at the points of setting priorities and implementing plans.

Throughout this paper, problems and possibilities facing the University as it moves toward the future have been described. Many of these must be taken into account if the University is to develop coherently. As our recommendation makes explicit, we feel that serious and thorough-going planning for the University's future is one such possibility, one that will by no means occur automatically. There are other decisions also which must be made as part of the University's definition of its future course. We will not attempt to summarize the content of this paper, but we will mention again two overriding considerations that require serious thought and explicit action in setting University goals. The first of these is the University's relationship to society, the nature and the extent of its involvement with societal problems and trends. The second is the University's relationship to the highly technological development of society.

The conflict between the autonomous and popular functions of the University pervades almost all other campus issues. There is the broad issue of how involved the University should become with the global problems we have described. The decision made about this issue affects in turn who the University teaches, the type of curriculum

that is taught, the extent to which scholarship is applied to societal problems, and the type and extent of public service commitment assumed. In each of these areas there are legitimate popular and autonomous roles for the University. A balance must be struck between the two in order to take advantage of these roles without sacrificing one to the other. It is by no means clear where the perfect balance for this institution would be.

The second overriding consideration in the University's future, technology, has similar implications. New devices have the potential for altering completely the nature of instruction. Should the University adapt its instructional program accordingly? Is the expense too great to warrant such changes, or are the instructional outcomes not desirable? Students will increasingly have to find their way in a highly technological world. Should they be trained in the technology of today? Or educated to adapt to an increasing rate of change? The uses to which the new technology can be put are, to many dehumanizing. What ways can the University find to direct it to humanistic goals? Should the University be involved at all in shaping technological development? The answers to these questions are, again, open ended. The answers may be quite different for different institutions within the spectrum of higher education.

The University community must consider deeply where it is going and how it will get there. This fact has become very clear in the course of analyzing where the University is now. We have gone from a period of immense growth to one of relative stability. We now have the opportunity to consolidate the gains made in recent years and to grow in new ways, not measured by numbers alone. The first step in planning towards this future must be the setting of institutional goals. We urge the constituent groups of the University to set about doing this, taking into consideration the multitude of possibilities, as well as limitations, we have described here.

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